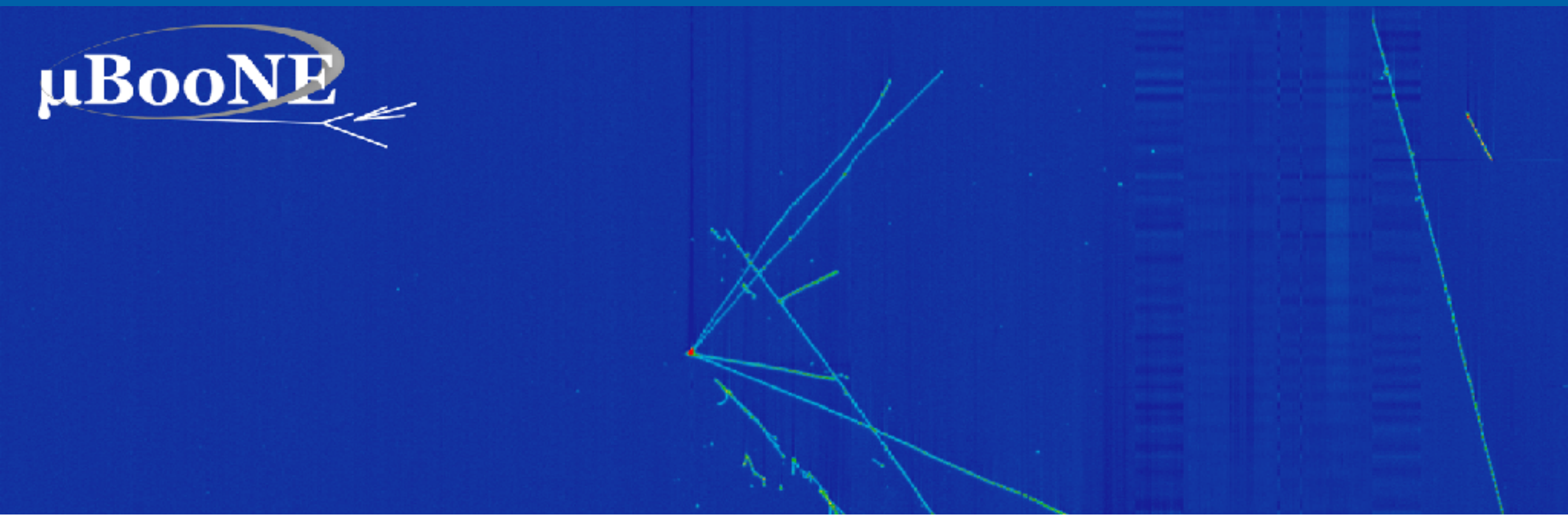

MicroBooNE Status Report

Kirsty Duffy, on behalf of the MicroBooNE Collaboration
Fermilab

AEM/Lab Status Meeting
Monday 23rd October 2017

MicroBooNE Operations

- Status at last AEM (October 9th):
  - MicroBooNE resumed off-beam data-taking on Friday 6th October, ready to collect beam
  - Two end-of-shutdown studies could not be completed before off-beam data-taking started because of minor problems:
    - “Late light” study
    - Investigation of grounding of PMT flange
- Operation plans for last month:
  - Normal off-beam data-taking
  - Test DAQ stability with SN operation
  - If the opportunity presents itself, allow interruptions to complete two studies above (before return of beam)
- Current work:
  - All shutdown studies completed
  - Preparing to take beam data

News

- Late light study:
  - Took final late light sample on Tuesday 17th October — 9 hours of random trigger data

- Zig-zag noise investigation
  - 0.3V potential difference found between PMT flange and cryostat
  - PMT flange grounded and front-end electronics rebooted — see possible reduction in zig-zag noise, but too early to say
  - Intend to continue investigating how this noise evolves post-grounding. If changes motivate further study, have plans drawn up in case of any short-notice downtime after end of shutdown

- DAQ tests for SN (supernova) stream
  - Now in final stages of commissioning SN data stream: testing DAQ stability at different data-taking frequencies
  - Aim is to collect data at a rate of 12Hz with 97% DAQ uptime
  - Work has been ongoing over the weekend to ensure DAQ state is maximally stable/ understood before Monday, in anticipation of beam return early this week.

LArTF Router Problems

- Repeated failures of router in LArTF on 13th and 20th October caused loss of DAQ and monitoring for the detector
  - >10h downtime due to two failures
  - Stable running for the week in between
  - May be due to age and long uptime of the equipment (all now out of warranty)
- Have replaced as much hardware as we can with the spare parts available to us
- Many thanks owed to Network Services and SLAM team members who helped us with diagnosing and treating these problems: Andrey Bobyshev, Ryan Heath, Bonnie King, Ramon Pasetes, and Olga Vlasova
- Can’t guarantee problem is permanently resolved. In discussions with Network Services and Neutrino Division to develop contingency plan to minimize lost beam time should problems recur.

Summary

- **MicroBooNE has been taking off-beam data for around 2 weeks, ready to collect beam**

- End-of-shutdown tests completed: late-light study, grounding of PMT flange, DAQ SN operations

- Problems with router in LArTF: closely monitoring situation and stability with new hardware

- **MicroBooNE is now waiting for beam**